Group #: Evaluation Proposal
For Digital Libraries, LIS 5472, Fall 2010, Professor Sanghee Oh

Background constraints.

Group 3 worked within set background constraints which may or may not apply to other digital libraries and which set limits on testing and the iterative process.

First, we are unfunded and working in a short time period. We have only 3 months start-to-finish to complete the digital library. This rules out certain test methods, which require money and time.

A heuristic evaluation involves a recommended 3-5 evaluators working about 2 hours each and so is feasible with our resources. (Mack & Nielsen (1994) However, a drawback is that a heuristic evaluation will uncover more minor problems while a usability evaluation will uncover more major global problems. (Manzari & Trinidad-Christensen 2006) So, really, if we implement the library long-term, we should plan to do both types of testing and tweak the design in between tests for an iterative design process.

Second, for the heuristic evaluation, we have only three group members, and so have only three evaluators. This may not be a huge drawback. In a study on heuristic evaluations of 6 six separate projects, on average three evaluators performing a heuristic evaluation will uncover approximately 60% of the usability problems in a software system. (Mack & Nielson 1994) With additional evaluators, there will be a diminishing return of additional problems uncovered. 3 to 5 evaluators is an optimal for heuristic evaluations. (Fichter 2004; Mack & Nielsen 1994) Group 3 is within that range. Group 3 has 3 evaluators.

Third, we were given the constraint to use Neilsen's 10 usability heuristics for interface design, initially laid out in a 1990 ACM publication (Mack & Nielsen 1990), but slightly restated in the current version on Nielsen's (2005) website. The specific set of heuristics on Nielsen's website has been widely cited in library evaluation research, and so is an accepted set of heuristics appropriately used to evaluate the digital library interface. (Fichter 2004; Manzari & Trinidad-Christensen 2006; Peng, Ramaiah, & Foo 2004; United States Department of Health and Human Services 2009; Yushiana & Rani 2007)

Persona: The typical user.

To some extent, all people will experience annoyance at the same usability problems. If each person really were completely different, then we couldn't have heuristics or would have to have a separate different set of heuristics for each group of users.

Different users will have different goals while accessing a website. For example, a person with relatives in the archive will have different goals than a person designing

theater costumes for a play set 100 years ago. Group 3 used personas to determine what tasks a user might like to perform. This is important, because we chose to use a structured heuristic evaluation, in which evaluators complete specified tasks while browsing the site. This type of evaluation ensures that usability issues related to each specific task will be addressed. (Fichter 2004)

Group member, Kirk Brittain, works with a genealogy project. The volunteer staff for the project tend to be retirees and are generally not technologically savvy. Anticipated users will come from a wide variety of backgrounds, since we expect to reach the curious public. We anticipate users being families who want to pool photos and discover hitherto unknown family members. Academic researchers or people who want to research genealogy in depth are not likely to use our library unless it becomes much larger and well established.

We anticipate users being curious and while they may be repeat users, we do not expect people to spend a great deal of time inside the library on a regular basis. This means that instructions on how to use the library will be more prominent in the initial release, and this can be reassessed later when there are users with habits to study.

The two personas we visualized for tasks are: (1) an older person who may have been alive when some of the photos were taken and may remember people from the photos, and (2) a child interested photos and visual content who is able to read but slowly and not yet at the level of an adult.

Questions and Answers for Evaluators.

Each heuristic is to be graded on the following scale adapted from Fichter (2004):

Not a problem	I don't agree that this is a usability problem at all
Cosmetic problem only	Need not be fixed unless extra time is available
Minor usability problem	Fix should be given low priority
Major usability problem	Important, so should be given high priority
Usability catastrophe	Imperative to fix this before release

This will allow problems to be prioritized, so that the most important problems can be addressed even if many, many problems are uncovered. (Fichter 2004)

Each heuristic was broken into three yes/no questions with space for comments and notations. The questions help to uncover specific details about the heuristic. Each evaluator is instructed to spend about 2 hours completing the evaluation, which is standard. (Mack & Nielsen 1994) This will allow notations to be collected for many if not all questions.

Individual questions were adapted from items on a heuristic checklist published by Furiant Consulting (2004) and from questions used in a heuristic evaluation by Yushiana

and Rani (2007). While Yushiana and Rani's study purports to measure only 3 of Nielsen's 10 heuristics, really some of the questions overlap with other heuristics, and so questions were rearranged as appropriate. For example, visibility of interface status was measured by a question about remembering something through several steps of the process. This question is a good fit for measuring recognition rather than recall, which was not assessed in the Yushiana and Rani study.

ADA compliance is a form of heuristic testing. Checklist items which will be caught later in an ADA compliance check were removed. For example, "Graphic links are also available as text links" is also an ADA compliance heuristic, and so was removed. Other items seem to be less important now than historically, and so were removed. For example, "The site supports all major browsers" was probably a more important checklist item during the standards wars between Netscape and Internet Explorer 10 years ago. A similar question about the website requiring special technology or browser versions was left intact, because some of the interactions with Greenstone required javascript, and the group had some problems with these functions when setting up the library.

An overview of digital library usability by Zhang, Liu, Li, and Zhang (2006) noted the most serious problems which can affect usability for digital libraries. Questions were added to account for the most serious problems a library can have: zero-hit results, inability to go "Back" to the previous page visited, and fruitlessly looking for something the user believes should be there but is not. (Zhang, Liu, Li, and Zhang 2006)

References

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Usability heuristic evaluation checklist – Group 3

Evaluator: _____
Internet Browser (name and version number): _____

Instructions:

This evaluation should take about 2 hours to complete. Please navigate through the digital library for Group 3 and rate the library on the following heuristics.

While you browse the library, try to complete the following goals:

1) Find an unlabeled face, look at labeled faces from the same time period and compare them to the unlabeled face.

2) Submit a comment saying what the name of an unlabeled face is. If you actually identify a new connection, then that is great, submit that! If you don't, which is fine, because this initial prototype library is small and unlabeled, then submit the name "Evaluator" to label the unknown person.

3) Pick a person, and try to find all the pictures of that person.

4) Pick a family, and try to find other people from that family.

Rate each item on the following scale:

Not a problem	I don't agree that this is a usability problem at all
Cosmetic problem only	Need not be fixed unless extra time is available
Minor usability problem	Fix should be given low priority
Major usability problem	Important, so should be given high priority
Usability catastrophe	Imperative to fix this before release

Visibility of system status

Goal = The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Comments:_____
_____
_____
_____

From each page, it is clear where you are and where you can go from the current location?

Yes No

Notes:_____
_____
_____

Is it always clear what is happening from each action you perform?

Yes No

Notes:_____
_____
_____

If there are observable delays (greater than fifteen seconds) in the interface's response time, is the user kept informed of the interface's progress?

Yes No

Notes:_____
_____
_____

Match between system and the real world

Goal = The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

From the homepage, is it clear where to go and how to browse/search pictures on the site?

Yes No

Notes:_____
_____
_____

On data entry screens, are tasks described in clear language familiar to regular people?

Yes No

Notes:_____
_____
_____

Is the vocabulary appropriate for the intended audience regular families including very old and very young users without technology backgrounds?

Yes No

Notes:_____
_____
_____

User control and freedom

Goal = Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Is it always easy to return to the Home Page?

Yes No

Notes:_____
_____
_____

Does clicking the "Back" button take the browser to the previous page it was on?

Yes No

Notes:_____
_____
_____

Do link labels match content on the destination pages?

Yes No

Notes:_____
_____
_____

Consistency and standards

Goal = Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Do menus in similar parts of the webpage give you the same options?

Yes No

Notes:_____
_____
_____

Do menu instructions, prompts and error messages appear in the same place(s) on each menu?

Yes No

Notes:_____
_____
_____

Is there clear notification if special technologies or browser versions are required?

Yes No

Notes:_____
_____
_____

Error prevention

Goal = Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Did any searches return zero hits? Yes No

Notes:_____
_____
_____

Is a suggestion or guidance available if a search returns zero hits?

Yes No

Notes:_____
_____
_____

Do small changes in search terms (such as plurals, articles, etc) produce different results, or no results?

Yes No

Notes:_____
_____
_____

Recognition rather than recall

Goal = Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Is it necessary to concentrate and remember information throughout several responses?

Yes No

Notes:_____
_____
_____

Are available actions (such as navigation options) always clearly presented and easy to recognize?

Yes No

Notes:_____
_____
_____

Is a search history provided? Yes No

Notes:_____
_____
_____

Flexibility and efficiency of use

Goal = Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Are there short cuts for commonly used sequences of actions? Yes No

Notes:_____
_____
_____

Did any instructions on how to use the library begin to feel wordy or obtrusive as you browsed the site?

Yes No

Notes:_____
_____
_____

Is the number of pages a user has to navigate through the minimum necessary?
(say how many clicks it took and note if there is a logical place for a shortcut)

Yes No

Notes:_____
_____
_____

Aesthetic and minimalist design

Goal = Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Is only (and all) information essential to decision making displayed on the screen?

Yes No

Notes:_____
_____
_____

Is it easy to read text on the screen with the current color choices?

Yes No

Notes:_____
_____
_____

Does each icon stand out from its background? Yes No

Notes:_____
_____
_____

Help users recognize, diagnose, and recover from errors

Goal = Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Is a site map or other navigational assistance always readily available?

Yes No

Notes:_____
_____
_____

Is a plain language and understandable error message presented each time an error occurs?

Yes No

Notes:_____
_____
_____

If the user receives an error message, were they given instructions on how to respond to the error message for diagnosis?

Yes No

Notes:_____
_____
_____

Help and documentation

Goal = Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

Overall Impression: Circle one:
Not a problem/Cosmetic problem /Minor usability problem/Major usability problem/Usability catastrophe

Notes/Suggestions:_____
_____
_____
_____

Is it clear from the home page where to go to find help?

Yes No

Notes:_____
_____
_____

Is an FAQ needed? Yes No

Notes:_____
_____
_____

Is it easy to contact support through email or a web form? Yes No

Notes:_____
_____
_____

Overall comments on the library:_____
_____
_____
_____
_____
_____
_____